#### 00 00 01 - GENERAL CONDITIONS

- 1. ALL DRAWINGS, SPECIFICATIONS AND COPIES THEREOF AND ALL MODELS FURNISHED BY THE CONSULTANT ARE AND SHALL REMAIN HIS PROPERTY AND ARE NOT TO BE USED ON OTHER WORK. IF THE CONSULTANT SO REQUESTS, ALL SUCH DRAWINGS, SPECIFICATIONS AND MODELS, EXCEPT FOR THE SIGNED CONTRACT SET OF DRAWINGS AND SPECIFICATIONS, SHALL BE RETURNED UPON COMPLETION OF THE WORK.
- 2. ALL STANDARDS, MANUALS, AND CODES REFERRED TO SHALL BE THE LATEST EDITIONS INCLUDING ALL REVISIONS AND ADDENDA.
- 3. ALL WORK AND MATERIALS SHALL CONFORM TO REQUIREMENTS SET OUT IN THE ONTARIO BUILDING CODE.
- 4. ALL WORK IS TO BE CARRIED OUT IN ACCORDANCE WITH THE OCCUPATIONAL HEALTH AND SAFETY ACT OF ONTARIO.
- 5. THE CONTRACTOR SHALL EXAMINE ALL DRAWINGS BEFORE PROCEEDING WITH THE WORK. ANY DISCREPANCY IN DIMENSIONS SHOWN ARE TO REPORTED TO THE ENGINEER. REFER TO THE MECHANICAL AND ELECTRICAL FOR LOCATIONS AND SIZES NOT SHOWN ON THE STRUCTURAL DRAWINGS, HOWEVER, OBTAIN THE STRUCTURAL CONSULTANTS PRIOR APPROVAL BEFORE INSTALLING OPENINGS.
- 6. TEMPORARY WORKS: PROVIDE AND MAINTAIN REQUIRED BARRICADES, GUARDS, FENCING, SHORING, TEMPORARY ROADWAYS, FOOTPATHS, SIGNS, LIGHTING AND TRAFFIC FLAGGING
- 7. DO NOT DAMAGE PROPERTY WHICH IS TO REMAIN ON OR ADJACENT TO THE WORK. IF DAMAGE OCCURS, IMMEDIATELY REPAIR IT AT THE CONTRACTORS COST.
- 8. BEFORE PRACTICAL COMPLETION, CLEAN THROUGHOUT, INCLUDING INTERIOR AND EXTERIOR SURFACES EXPOSED TO VIEW. CLEAN SOFT AND HARD SURFACES, CLEAN AND REMOVE WASTE AND SURPLUS MATERIALS.
- 9. BEFORE PRACTICAL COMPLETION, CLEAN AND REPAIR DAMAGE CAUSED BY INSTALLATION OR USE OF TEMPORARY WORK AND RESTORE EXISTING FACILITIES USED DURING CONSTRUCTION TO ORIGINAL CONDITION.
- 10. ALL WASTE MATERIAL TO BE SORTED AND RECYCLED/DISPOSED OF OFF SITE AT AN APPROVED WASTE MANAGEMENT FACILITY.
- 11. NO BURNING OF ANY MATERIALS ON SITE SHALL BE PERMITTED AT ANY TIME.

#### 01 45 00 - QUALITY CONTROL

ITEM	SUBMITTAL	ENGINEERS SEAL	SUBMITTAL REVIEW	SITE INSPECTION
CONCRETE	MIX DESIGN     CONCRETE TESTING		STRUCTURAL	STRUCTURAL
MISC. STEEL	SHOP DRAWING	• YES	STRUCTURAL	STRUCTURAL
FLOOR/STAIR FINISHES	PRODUCT SHEET     COLOUR SELECTION		STRUCTURAL/OWNER	STRUCTURAL
PAINT FINISHES	PRODUCT SHEET     COLOUR SELECTION		STRUCTURAL/OWNER	STRUCTURAL

- ALLOW CONSULTANT AND INDEPENDENT INSPECTION AGENCIES ACCESS TO WORK, IF PART OF WORK IS IN PREPARATION AT LOCATIONS OTHER THAN PLACE OF WORK, ALLOW ACCESS TO SUCH WORK WHENEVER IT IS IN PROGRESS.
- 2. GIVE TIMELY NOTICE REQUESTING INSPECTION IF WORK WHERE DESIGNATED. (MINIMUM OF 48 HOURS)
- 3. IF CONTRACTOR COVERS OR PERMITS TO BE COVERED WORK THAT HAS BEEN DESIGNATED FOR SPECIAL TESTS, INSPECTIONS OR APPROVALS BEFORE SUCH IS MADE, UNCOVER SUCH WORK, HAVE INSPECTIONS OR TESTS SATISFACTORILY COMPLETED AND MAKE GOOD SUCH WORK.
- 4. CONSULTANT MAY ORDER ANY PART OF WORK TO BE EXAMINED IF WORK IS SUSPECTED NOT TO BE IN ACCORDANCE WITH CONTRACT DOCUMENTS. IF, UPON EXAMINATION SUCH WORK IS FOUND NOT IN ACCORDANCE WITH CONTRACT DOCUMENTS, CORRECT SUCH WORK AND PAY COST OF EXAMINATION AND CORRECTION

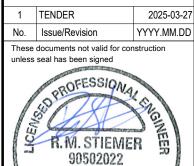
#### 01 33 00 - SUBMITTAL PROCEDURES

- 1. REVIEW SUBMITTALS PRIOR TO SUBMISSION TO CONSULTANT. THIS REVIEW REPRESENTS THAT NECESSARY REQUIREMENTS HAVE BEEN DETERMINED AND VERIFIED, OR WILL BE, AND THAT EACH SUBMITTAL HAS BEEN CHECKED AND CO-ORDINATED WITH REQUIREMENTS OF WORK AND CONTRACT DOCUMENTS. SUBMITTALS NOT STAMPED, SIGNED, DATED AND IDENTIFIED AS TO SPECIFIC PROJECT WILL BE RETURNED WITHOUT BEING EXAMINED AND CONSIDERED REJECTED.
- 2. VERIFY FIELD MEASUREMENTS AND AFFECTED ADJACENT WORK ARE CO-ORDINATED.
- 3. THE TERM "SHOP DRAWINGS" MEANS DRAWINGS, DIAGRAMS, ILLUSTRATIONS, SCHEDULES, PERFORMANCE CHARTS, BROCHURES AND OTHER DATA WHICH ARE TO BE PROVIDED BY CONTRACTOR TO ILLUSTRATE DETAILS OF A PORTION OF WORK.
- 4. WHERE COMPONENT REQUIRES ENGINEERING, SUBMIT DRAWINGS STAMPED AND SIGNED BY PROFESSIONAL ENGINEER LICENSED IN ONTARIO.
- 5. INDICATE MATERIALS, METHODS OF CONSTRUCTION AND ATTACHMENT OR ANCHORAGE, ERECTION DIAGRAMS, CONNECTIONS, EXPLANATORY NOTES AND OTHER INFORMATION NECESSARY FOR COMPLETION OF WORK. WHERE ARTICLES OR EQUIPMENT ATTACH OR CONNECT TO OTHER ARTICLES OR EQUIPMENT, INDICATE THAT SUCH ITEMS HAVE BEEN CO-ORDINATED, REGARDLESS OF SECTION UNDER WHICH ADJACENT ITEMS WILL BE SUPPLIED AND INSTALLED. INDICATE CROSS REFERENCES TO DESIGN DRAWINGS AND SPECIFICATIONS.
- 6. ADJUSTMENTS MADE ON SHOP DRAWINGS BY CONSULTANT ARE NOT INTENDED TO CHANGE CONTRACT PRICE. IF ADJUSTMENTS AFFECT VALUE OF WORK, STATE SUCH IN WRITING TO CONSULTANT PRIOR TO PROCEEDING WITH WORK.
- 7. MAKE CHANGES IN SHOP DRAWINGS AS CONSULTANT MAY REQUIRE, CONSISTENT WITH CONTRACT DOCUMENTS. WHEN RESUBMITTING, NOTIFY CONSULTANT IN WRITING OF REVISIONS OTHER THAN THOSE REQUESTED.
  8. ACCOMPANY SUBMISSIONS WITH TRANSMITTAL LETTER, CONTAINING:
  - A. DATE.
  - B. PROJECT TITLE AND NUMBER
  - C. CONTRACTOR'S NAME AND ADDRESS
  - D. IDENTIFICATION AND QUANTITY OF EACH SHOP DRAWING, PRODUCT DATA AND SAMPLE.
- E. OTHER PERTINENT DATA.
- 9. SUBMISSION TO INCLUDE DETAILS OF APPROPRIATE PORTIONS OF WORK AS APPLICABLE:
- 10. FABRICATION.
- 11. LAYOUT, SHOWING DIMENSIONS, INCLUDING IDENTIFIED FIELD DIMENSIONS, AND CLEARANCES
- 12. SETTING OR ERECTION DETAILS.
- 13. CAPACITIES.
- 14. PERFORMANCE CHARACTERISTICS.
- 15. STANDARDS.
- 16. OPERATING WEIGHT
- 17. WIRING DIAGRAM
- 18. SUBMIT SAMPLES FOR REVIEW SAMPLES AS REQUESTED IN RESPECTIVE SPECIFICATION SECTIONS. LABEL SAMPLES WITH ORIGIN AND INTENDED USE.
- 19. WHERE COLOUR, PATTERN OR TEXTURE IS CRITERION, SUBMIT FULL RANGE OF SAMPLES. REVIEWED AND ACCEPTED SAMPLES WILL BECOME STANDARD OF WORKMANSHIP AND MATERIAL AGAINST WHICH INSTALLED WORK WILL BE VERIFIED.

#### 02 41 17 - SELECTIVE DEMOLITION

- 1. PREVENT MOVEMENT, SETTLEMENT, OR OTHER DAMAGE TO ADJACENT STRUCTURES, UTILITIES, AND PARTS OF BUILDING TO REMAIN IN PLACE, PROVIDE ENGINEERED BRACING AND SHORING AS REQUIRED.
- 2. PROVIDE REQUIRED SIGNAGE, BARRICADES, HOARDING, OVERHEAD PROTECTION AND TEMPORARY EGRESS IN ACCORDANCE WITH OCCUPATIONAL HEALTH AND SAFETY ACT.
- 3. SUPPORT AFFECTED STRUCTURE OR BUILDING COMPONENTS AND IF SAFETY OF STRUCTURE BEING DEMOLISHED OR ADJACENT STRUCTURES OR SERVICES APPEARS TO BE ENDANGERED, TAKE PREVENTATIVE MEASURES AND THEN CEASE OPERATIONS AND NOTIFY CONSULTANT IMMEDIATELY.
- 4. DO NOT PUMP WATER CONTAINING SUSPENDED MATERIALS INTO WATERCOURSES, STORM OR SANITARY SEWERS, OR ONTO ADJACENT PROPERTIES.
- 5. REMOVE PARTS OF EXISTING STRUCTURE TO PERMIT REPAIRS OR NEW CONSTRUCTION. SORT MATERIALS INTO APPROPRIATE PILES FOR RECYCLING AND OR REUSE.
- 6. WHERE TEMPORARY SHORING IS REQUIRED, THE CONTRACTOR SHALL SUBMIT A SHORING DRAWING WHICH HAS BEEN DESIGNED AND BEARS THE SEAL OF AN ENGINEER WHO IS LICENSED BY THE PROFESSIONAL ENGINEERING ASSOCIATION OF ONTARIO.
- 7. UNLESS SPECIFICALLY NOTED OTHERWISE ON THE DRAWINGS, NO PROVISION HAS BEEN MADE FOR IN THE DESIGN FOR CONDITIONS OCCURRING DURING CONSTRUCTION. THE CONTRACTOR IS TO PROVIDE ALL NECESSARY BRACINGS AND SHORING REQUIRED FOR STRESSES AND INSTABILITY OCCURRING FROM ANY CAUSE DURING CONSTRUCTION.
- 3. DESIGN LOADS SHOWN ON DRAWINGS WITH SUBSCRIPT "ULS" INDICATES ULTIMATE LIMIT STATE AND "SLS" SERVICE LIMIT STATE RESPECTIVELY.

The contractor is to verify all dimensions and report discrepencies to the engineer before commencing with the work





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GENERAL NOTES

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#### 03 30 00 - CAST IN PLACE CONCRETE

1. CONCRETE SHALL CONFORM TO CAN/CSA-A23.1 AND BE SUPPLIED BY A READY MIX SUPPLIER AND AS IDENTIFIED IN THE FOLLOWING TABLE:

	MIN. COMPRESSIVE STRENGTH AT 28 DAYS (MPa)	SLUMP (mm)	EXPOSURE CLASS
STAIR TREADS	25	80 +/- 30	C4

- 2. A SUPERPLASTIZER MAY BE REQUIRED TO PLACE CONCRETE. WHEN A SUPERPLASTIZER IS USED, THE SLUMP BEFORE THE ADDITION OF THE SUPERPLASTIZER SHALL BE AS SPECIFIED, OR LOWER, AND AFTER THE ADDITION OF THE SUPERPLASTIZER, SHALL REMAIN BELOW THE POINT AT WHICH SEGREGATION WILL OCCUR.
- ALL MIX DESIGNS SHALL CONFORM TO CAN/CSA-A23.1.
- 4. ALL CONCRETE CURING SHALL CONFORM TO CAN/CSA-A23.1
- 5. CONCRETE ADDITIVES SHALL NOT BE USED UNLESS PRIOR APPROVAL IS OBTAINED FROM THE STRUCTURAL CONSULTANT.
- 6. NO CONCRETE SHALL BE POURED WITHOUT PRIOR REVIEW OF THE STRUCTURAL CONSULTANT. PROVIDE A MINIMUM OF 48hrs NOTICE OF A CONCRETE POUR FOR REVIEW OF PREPARATIONS.
- ALL CONCRETE SHALL BE TESTED IN ACCORDANCE WITH CAN/CSA-A23.2.
- FOR COMPRESSIVE STRENGTH TESTING OF CONCRETE A MINIMUM OF 3-150x600 CYLINDERS ARE REQUIRED FOR:
- A. EACH DAYS POUR
- B. EACH TYPE OF GRADE OF CONCRETE
- C. EACH CHANGE OF SUPPLIER
- D. EACH 20 CU m OR FRACTION THEREOF FOR COLUMNS AND SHEAR WALLS
- E. EACH 50 CU m OR FRACTION THEREOF FOR FOOTINGS, FOUNDATION WALLS, SLABS AND BEAMS.
- 9. ADDITIONAL TEST SPECIMENS SHALL BE TAKEN WHENEVER REQUESTED BY THE STRUCTURAL CONSULTANT OR THE SUPERVISOR TO VERIFY THE CONCRETE QUALITY.

#### 05 50 00 - METAL FABRICATION

- 1. ALL STRUCTURAL STEEL SHALL BE NEW STOCK AND CONFIRM TO THE FOLLOWING GRADES AND STANDARDS:
  - A. CAN/CSA-G40.21-98 TYPE 300W UNLESS OTHERWISE NOTED.
- B. HOLLOW STRUCTURAL SECTIONS: CAN/CSA-G40.21-98 TYPE 350W, CLASS 'C'.
- C. STRUCTURAL W SHAPES: CAN/CSA-G40.21-98 TYPE 350W.
- ALL STRUCTURAL STEEL SHALL BE FABRICATED AND ERECTED IN ACCORDANCE WITH CAN/CSA-S16.1.
- 3. ALL WELDING SHALL BE CARRIED OUT IN ACCORDANCE WITH CSA W59-03 BY A FABRICATOR FULLY APPROVED UNDER CSA W47.1-03. DIVISION NO. 1 OR NO. 2.
- 4. ALL BOLTS, NUTS AND WASHERS FOR STRUCTURAL STEEL CONNECTIONS SHALL CONFORM TO ASTM A325.
- 5. ALL ANCHOR BOLTS, NUTS AND WASHERS SHALL CONFORM TO ASTM A36 OR ASTM A307.
- 6. ALL STEEL DECK SHALL BE GRADE 'A' STRUCTURAL QUALITY TO ASTM A653M AND GALVANIZED TO ASTM A653M.
- 7. STEEL DECK MAY BE AN APPROVED EQUAL.
- 8. NO HOLES SHALL BE CUT IN STRUCTURAL STEEL WITHOUT THE PRIOR APPROVAL OF THE STRUCTURAL ENGINEER.
- 9. INSPECTION AND TESTING OF STRUCTURAL STEEL FRAME-WORK (SUCH AS, BUT NOT LIMITED TO, BOLT TORQUE, WELD QUALITY, AND ALIGNMENT) SHALL BE IN ACCORDANCE WITH CAN/CSA-S16.1 AND CSA W59 BY A QUALIFIED INSPECTION COMPANY.
- 10. SPLICES IN STEEL MEMBERS OTHER THAN THOSE SHOWN ON THE DRAWINGS SHALL NOT BE PERMITTED.
- 11. ALL WELDED JOINTS IN ARCHITECTURALLY EXPOSED STRUCTURAL STEEL SHALL BE GROUND SMOOTH AND SHALL HAVE ALL WELD SPLATTER REMOVED.
- 12. CLEAN, PREPARE SURFACES AND SHOP PRIME STRUCTURAL STEEL IN ACCORDANCE WITH CAN/CSA-S16.1.
- 13. TOUCH UP SHOP PRIMER TO BOLTS, WELDS, AND BURNED AND SCRATCHED SURFACES AT COMPLETION OF ERECTION.
- 14. SHOP PAINT TO CISC/CPMA 1-73a EXCEPT AS NOTED IN SPECIFICATIONS. TOUCH UP SCRATCHES, BOLTS AND WELDS AFTER ALL STEEL IS ERECTED.
- 15. ALL DESIGN LOADS NOTED ON DRAWINGS ARE WORKING LOADS.

#### 07 92 10 - JOINT SEALING

- 1. PROVIDE JOINT SEALANT AT INTERIOR LOCATIONS:
- A. RUBBER STAIR TREADS/LANDING TO STRINGER/WALL
- 2. INTERIOR PAINTABLE: ACRYLIC URETHANE.
- 3. PREPARE SURFACES IN ACCORDANCE WITH MANUFACTURER'S DIRECTIONS.

## 09 21 16 - GYPSUM FINISHES

- 1. GYPSUM BOARD: CONFORMING TO CAN/CSA-A82.27, AS MANUFACTURED BY CANADIAN GYPSUM COMPANY; CERTAINTEED GYPSUM CANADA.
- 2. BEFORE APPLICATION OF GYPSUM BOARD COMMENCES, ENSURE THE SERVICES HAVE BEEN INSTALLED, TESTED AND APPROVED BY RELEVANT JURISDICTIONAL AUTHORITIES AND CONSULTANT; THAT CONDUITS, PIPES, CABLES AND OUTLETS ARE PLUGGED, CAPPED OR COVERED; AND THAT FASTENINGS, AND SUPPORTS INSTALLED BY OTHERS ARE IN PLACE.
- 3. SCREWS: SELF-DRILLING, SELF-TAPPING, CASE-HARDENED, PHILLIPS HEAD, GYPSUM BOARD SCREWS WITH CORROSION-RESISTANT FINISH. #6 X 25 M FOR SINGLE THICKNESS PANEL FASTENING, AND #7 X 40 MM FOR DOUBLE THICKNESS PANEL FASTENING.
- 4. VERIFY LOCATION OF SUPPORTS WITHIN GYPSUM BOARD ASSEMBLIES TO SUPPORT WALL MOUNTED FITMENTS, AND CABINETS. COOPERATE AND COORDINATE WITH CARPENTRY TRADE AND PROVIDE INFORMATION IN AMPLE TIME TO ENSURE SUPPORTS ARE PROVIDED IN THE CORRECT LOCATIONS.

#### 09 51 13 - ACOUSTICAL PANEL CEILINGS

- I. EXAMINE AREAS TO RECEIVE CEILING PANELS FOR CONDITIONS THAT WILL ADVERSELY AFFECT INSTALLATION. PROVIDE WRITTEN REPORT OF DISCREPANCIES
- 2. DO NOT START WORK UNTIL UNSATISFACTORY CONDITIONS ARE CORRECTED.
- 3. WORK TO BE CONCEALED: VERIFY WORK ABOVE CEILING IS COMPLETE AND INSTALLED IN MANNER THAT WILL NOT AFFECT LAYOUT

AND INSTALLATION OF CEILING PANELS.

- BEGINNING OF INSTALLATION SHALL SIGNIFY ACCEPTANCE OF CONDITIONS IN AREAS TO RECEIVE CEILING PANELS.
- 5. ALL MATERIALS SHALL BE DELIVERED IN THEIR ORIGINAL UNOPENED PACKAGES AND STORED IN AN ENCLOSED SHELTER PROVIDING PROTECTION FROM DAMAGE AND EXPOSURE TO THE ELEMENTS.
- 6. STORAGE TIME OF MATERIALS AT THE JOBSITE SHOULD BE AS SHORT AS POSSIBLE, AND ENVIRONMENTAL CONDITIONS SHOULD BE AS NEAR AS POSSIBLE TO THOSE SPECIFIED FOR OCCUPANCY. EXCESS HUMIDITY DURING STORAGE CAN CAUSE EXPANSION OF MATERIAL AND POSSIBLE WARP, SAG, OR POOR FIT AFTER INSTALLATION. CHEMICAL CHANGES IN THE MAT AND/OR COATINGS CAN BE AGGRAVATED BY EXCESS HUMIDITY AND CAUSE DISCOLORATION DURING STORAGE, EVEN IN UNOPENED CARTONS. CARTONS SHOULD BE REMOVED FROM PALLETS AND STRINGERS TO PREVENT DISTORTION OF MATERIAL. LONG-TERM (6-12 MONTHS) STORAGE UNDER UNCONTROLLED ENVIRONMENTAL CONDITIONS SHOULD BE AVOIDED.
- 7. DAMAGED OR DETERIORATED MATERIALS SHOULD BE REMOVED FROM THE PREMISES. IMMEDIATELY BEFORE INSTALLATION, TO STABILIZE TILE AND PANELS, STORE THEM AT A LOCATION WHERE TEMPERATURE AND HUMIDITY CONDITIONS DUPLICATE THOSE AMBIENT DURING INSTALLATION AND ANTICIPATED FOR OCCUPANCY.
- 8. INSTALLATION OF ACOUSTICAL PANELS SHALL NOT BEGIN UNTIL BUILDING IS ENCLOSED, PERMANENT HEATING AND COOLING EQUIPMENT IS IN OPERATION, AND RESIDUAL MOISTURE FROM PLASTER, CONCRETE, OR TERRAZZO WORK HAS DISSIPATED.
- 9. DO NOT USE CEILING PANELS IN EXTREME OR CONTINUOUS HIGH HUMIDITY, OR AREAS EXPOSED DIRECTLY TO WEATHER OR WATER. CEILING PANELS ARE SIZED AND DESIGNED FOR USE WITHIN THE STANDARD OCCUPANCY RANGE OF TEMPERATURE AND HUMIDITY, 65-85 °F (18-29 °C), NO MORE THAN 70% RH (RELATIVE HUMIDITY).
- 10. FOR SOME PATTERN EDGE DETAILS, IF PERIMETER PANELS MUST BE CUT SMALLER, THE CUT EDGE MUST BE FIELD-RABBETTED, OR THE WALL ANGLE MUST BE LOWERED BY (1/4") (3/8") (REVEAL DEPTH)
- 11. STANDARD REFERENCE: INSTALL CEILING PANELS AND SUSPENSION SYSTEM, INCLUDING NECESSARY HANGERS, GRILLAGE, SPLINES, AND OTHER SUPPORTING HARDWARE, IN ACCORDANCE WITH ASTM C636, CISCA INSTALLATION SYDS., (UL DESIGN) AND ANY APPLICABLE CODE REQUIREMENT.
- 12. MANUFACTURER'S REFERENCE: INSTALL CEILING PANELS IN EXPOSED GRID SYSTEMS, SUPPORTED ON ALL EDGES, IN ACCORDANCE WITH MANUFACTURER'S CURRENT PRINTED RECOMMENDATIONS.
- 13. FLAME SPREAD RATING OF SELECTED PANELS TO BE LESS THAN 25.

The contractor is to verify all dimensions and report discrepencies to the engineer before commencing with the work

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GENERAL NOTES

Proiect No: Drawing No: S0.2

## 09 65 16 - RUBBER SHEET FLOORING

- 1 PRODUCT
  - A. ANGLEFIT TREADS AND RISERS (BY TARKETT OR APPR. EQ.) WITH RECESSED GRIT STRIP.
  - B. FLOOR LANDINGS: RUBBER TILE (BY TARKETT OR APPR. EQ.)
  - C. HAMMERED FINISH.
  - D. ADHESIVES: AS RECOMMENDED BY MANUF. AND TO MEET SITE CONDITIONS.
    - a. TARKETT 965 FLOORING AND TREAD ADHESIVE.
    - b. TARKETT 946 PREMIUM CONTACT BOND ADHESIVE.
    - c. EXCELSIOR AW-510 ACRYLIC WET SET ADHESIVE.
    - d. EXCELSIOR EW-710 EPOXY WET SET ADHESIVE.
    - e. EXCELSIOR C-630 CONTACT ADHESIVE.
  - PRIMER AS RECOMMENDED BY THE MANUF.
- AT BEGINNING OF PROJECT, SUBMIT SUPPLIERS MANUAL INDICATING FULL RANGE OF COLOURS FOR PATTERNING
- CLEAN FLOOR AND APPLY FILLER; TROWEL AND FLOAT TO LEAVE SMOOTH, FLAT HARD SURFACE. PROHIBIT TRAFFIC UNTIL FILLER CURED AND DRY.
- 4. REMOVE OR TREAT OLD ADHESIVES TO PREVENT RESIDUAL, OLD FLOORING ADHESIVES FROM BLEEDING THROUGH TO NEW FLOORING AND/OR INTERFERING WITH THE BONDING OF NEW ADHESIVES.
- 5. REMOVE CHALKING AND DUSTING FROM CONCRETE SURFACES WITH WIRE BRUSHES
- 6. PRIME OR SEAL CONCRETE TO FLOORING MANUFACTURER'S PRINTED INSTRUCTIONS.
- 7. MAINTAIN AIR TEMPERATURE AND STRUCTURAL BASE TEMPERATURE AT FLOORING INSTALLATION AREA ABOVE 21C FOR 48 HOURS BEFORE, DURING AND FOR 48 HOURS AFTER INSTALLATION.
- B. PROVIDE A HIGH VENTILATION RATE, WITH MAXIMUM OUTSIDE AIR, DURING INSTALLATION, AND FOR 48 TO 72 HOURS AFTER INSTALLATION. IF POSSIBLE, VENT DIRECTLY TO THE OUTSIDE. DO NOT LET CONTAMINATED AIR RE-CIRCULATE THROUGH A DISTRICT OR WHOLE BUILDING AIR DISTRIBUTION SYSTEM. MAINTAIN EXTRA VENTILATION FOR AT LEAST ONE MONTH FOLLOWING BUILDING OCCUPATION.
- APPLY ADHESIVE UNIFORMLY USING RECOMMENDED TROWEL IN ACCORDANCE WITH FLOORING MANUFACTURER'S INSTRUCTIONS. DO
  NOT SPREAD MORE ADHESIVE THAN CAN BE COVERED BY FLOORING BEFORE INITIAL SET TAKES PLACE.
- 10. REMOVE SUB-FLOOR RIDGES AND BUMPS. FILL LOW SPOTS, CRACKS, JOINTS, HOLES AND OTHER DEFECTS WITH SUB-FLOOR FILLER COMPATIBLE WITH SUBSTRATE AND ADHESIVE.
- 11. PREPARE SURFACE TO MANUFACTURERS RECOMMENDATIONS.
- 12. NOSE FILLER MAY BE REQUIRED DEPENDING ON TREAD FIT. FOLLOW MANUFACTURERS RECOMMENDED FITTING TO ACHIEVE PROPER INSTALLATION AND ADHESION.
- 13. STAIR TREADS TO BE SQUARE NOSED.
- 14. STAIR TREADS TO HAVE NON SLIP SURFACE COMPLIANT WITH OBC REGULATIONS C/W COLOUR CONTRAST OR DISTINCT VISUAL DEMARCATION OF TREAD LEADING EDGE.
- 15. INSTALL FEATURE STRIPS AND FLOOR MARKINGS WHERE AS REQUIRED. FIT JOINTS TIGHTLY.
- 16. FLOORING TO BE LAID TO PROVIDE MINIMAL JOINTS.
- 17. JOINTS IN STAIR TREAD COVERINGS ARE PROHIBITED. CONTRATOR TO ORDER TREADS THE NEXT SIZE UP AND TRIM ON EACH END OF THE LENGTH AND DEPTH OF THE TREAD.
- 18. FLAME SPREAD RATING LESS THAN 150 REQUIRED

#### <u>09 91 10 - PAINTIN</u>

- PERFORM NO PAINTING WORK UNLESS ADEQUATE AND CONTINUOUS VENTILATION AND SUFFICIENT HEATING FACILITIES ARE IN PLACE
  TO MAINTAIN AMBIENT AIR AND SUBSTRATE TEMPERATURES ABOVE 10C FOR 24 HOURS BEFORE, DURING AND AFTER PAINT
  APPLICATION UNTIL PAINT HAS CURED SUFFICIENTLY, BUT IN NO CASE UNDER CONDITIONS NOT OUTLINED IN MANUFACTURER PAINTED
  INSTRUCTIONS.
- 2. PREPARATION OF STAIRS SHALL BE COMPLETED BY SANDBLASTING.
- B. PREPARATION OF ALL OTHER SURFACES:
- A. REMOVE HARDWARE.
- B. DEGREASE.
- C. LIGHT SANDING LEAVING ROUGHENED SURFACE.
- D. REMOVE SANDING DUST WITH VACCUM AND TACK CLOTH
- E. APPLY PRIMER AND PAINT
- 4. APPLY PAINT FINISH ONLY IN AREAS WHERE DUST IS NO LONGER BEING GENERATED BY RELATED CONSTRUCTION OPERATIONS OR WHEN WIND OR VENTILATION CONDITIONS ARE SUCH THAT AIRBORNE PARTICLES WILL NOT AFFECT QUALITY OF FINISHED SURFACE.
  - A. INTERIOR METAL DOORS AND FRAMES, STAIRS AND GUARDS: PRO INDUSTRIAL SHER-CYL HPA OVER PRO INDUSTRIAL PRO-CRYL UNIVERSAL ACRYLIC PRIMER
  - B. INTERIOR ON NEW GYPSUM: LATEX OVER LATEX PRIMER
- 5. INTERIOR ON EXISTING PAINTED GYPSUM: LATEX OVER LATEX PRIMER

#### **ABBREVIATIONS**

EF

EQ

ES

E.O.W. =

=

EACH FACE

**ELEVATION** 

EACH SIDE

**EQUAL** 

END OF WALL

A.BOLT	=	ANCHOR BOLT	E.T.O.W	1. =	EXISTING TOP OF WALL ELEV.	NO.	=	NUMBER
ALT.	=	ALTERNATE	EW	=	EACH WAY	NTS	=	NOT TO SCALE
ARCH.	=	ARCHITECTURAL	<b>EXIST</b>	=	EXISTING	OF	=	OUTSIDE FACE
@	=	AT	EXP. AN	IC. =	EXPANSION ANCHOR	OPNG	=	OPENING
BLL	=	BOTTOM LOWER LAYER	EXP JT	=	EXPANSION JOINT	PL	=	PLATE
BLDG	=	BUILDING	EXT	=	EXTERIOR	PT	=	PRESSURE TREATED
B, BOT	=	BOTTOM	FDN	=	FOUNDATION	R	=	RADIUS
BUL	=	BOTTOM UPPER LAYER	FIN	=	FINISHED	REINF.	=	REINFORCE/REINFORCEMENT
B.PL	=	BASE/BEARING PLATE	FTG	=	FOOTING	REQ'D	=	REQUIRED
CL	=	CLEAR	GA	=	GAUGE	REV	=	REVISION/REVISED
CONC	=	CONCRETE	GALV	=	GALVANIZED	R/W	=	REINFORCE WITH
CONT	=	CONTINUOUS	H, HORI	Z =	HORIZONTAL	SDF	=	STEP DOWN FOOTING
C/W	=	COMES/CONNECT WITH	IF	=	INSIDE FACE	SOG	=	SLAB ON GRADE
C.JT	=	CONTROL/CONSTRUCTION JOINT	INT	=	INTERIOR	SPF	=	SPRUCE PINE FIR
DET	=	DETAIL	JT	=	JOINT	T	=	TOP
DIAG	=	DIAGONAL	kPa	=	KILOPASCAL	U.N.O.	=	UNLESS NOTED OTHERWISE
DIA	=	DIAMETER	LG	=	LONG	W.W.M.	=	WELD WIRE MESH
DWL(S)	=	DOWELS	LL	=	LIVE LOAD, LOWER LAYER			
E.BED	=	EXISTING BED ELEVATION	LLH	=	LONG LEG HORIZONTAL			
EE	=	EACH END	LLV	=	LONG LEG VERTICAL			

MAXIMUM

MINIMUM

**METRE** 

MIDDLE LAYER

NOT IN CONTRACT

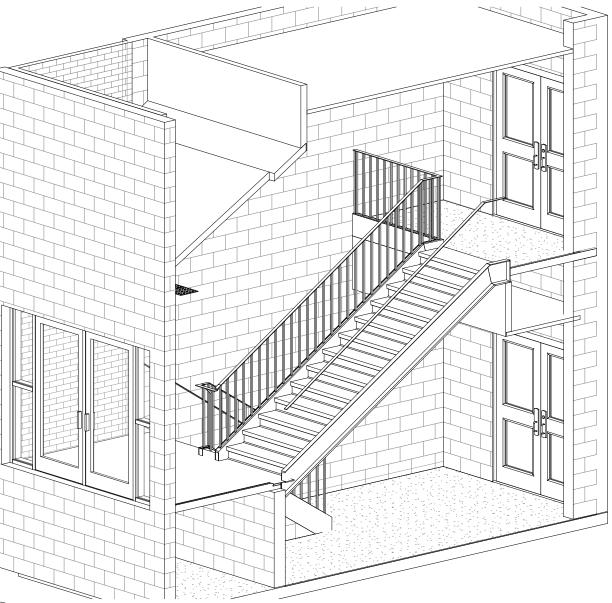
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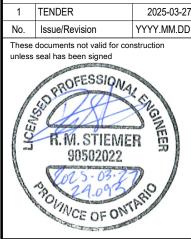
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The contractor is to verify all dimensions and report discrepencies to the engineer before commencing with the work









Project:
SUNDERLAND PS. STAIRWELL
IMPROVEMENTS,
41 ALBERT ST.,
SUNDERLAND, ON

DCL As indicated

Checked: YYYY.MM.DD

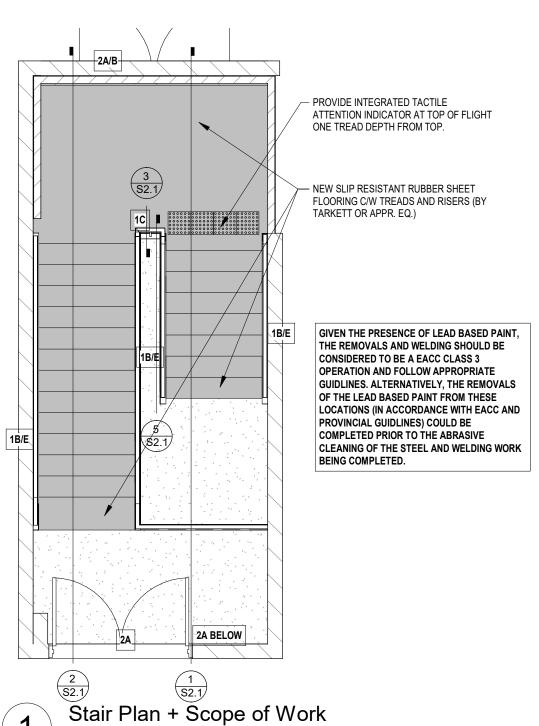
RMS 2025-02-25

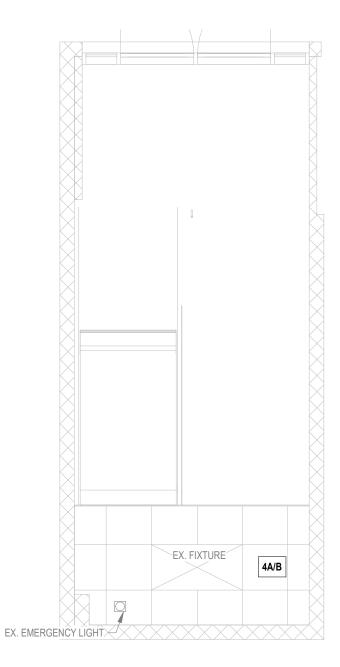
Drawing Title:
GENERAL NOTES AND
PERSPECTIVE

Proiect No: Drawing 24.093

S0.3

Perspective







Level 2 RCP 1:50

4A/B O EX. DETECTOR EX. EMERGENCY LIGHT EX. FIXTURE

**TENDER** 2025-03-2 No. Issue/Revision YYYY.MM.DE These documents not valid for construction unless seal has been signed

The contractor is to verify all dimensions and report discrepencies to the engineer before

commencing with the work





SUNDERLAND PS. STAIRWELL IMPROVEMENTS, 41 ALBERT ST., SUNDERLAND, ON

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RMS	2025-02-2
Drawing Title:	

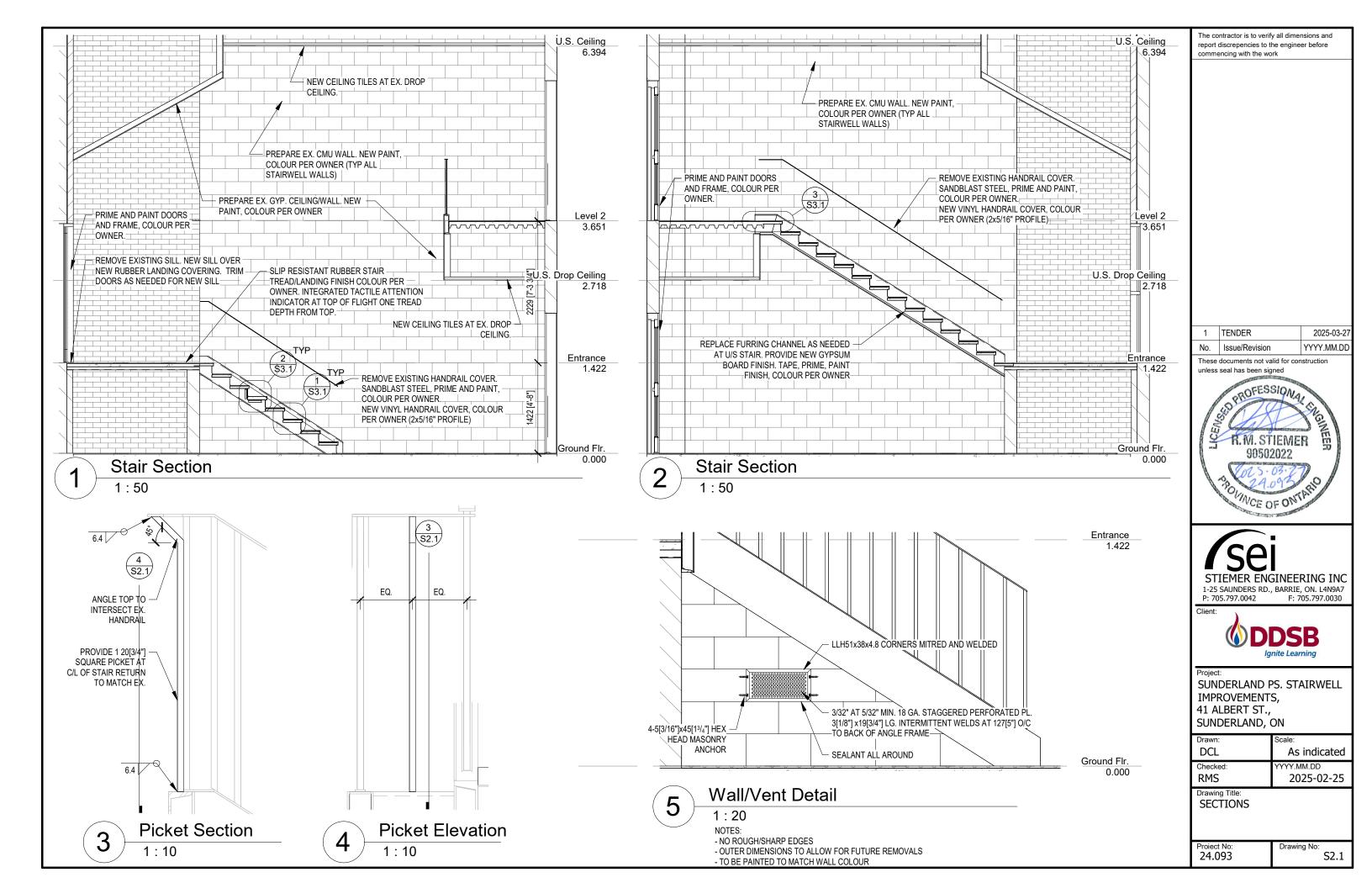
**PLANS** 

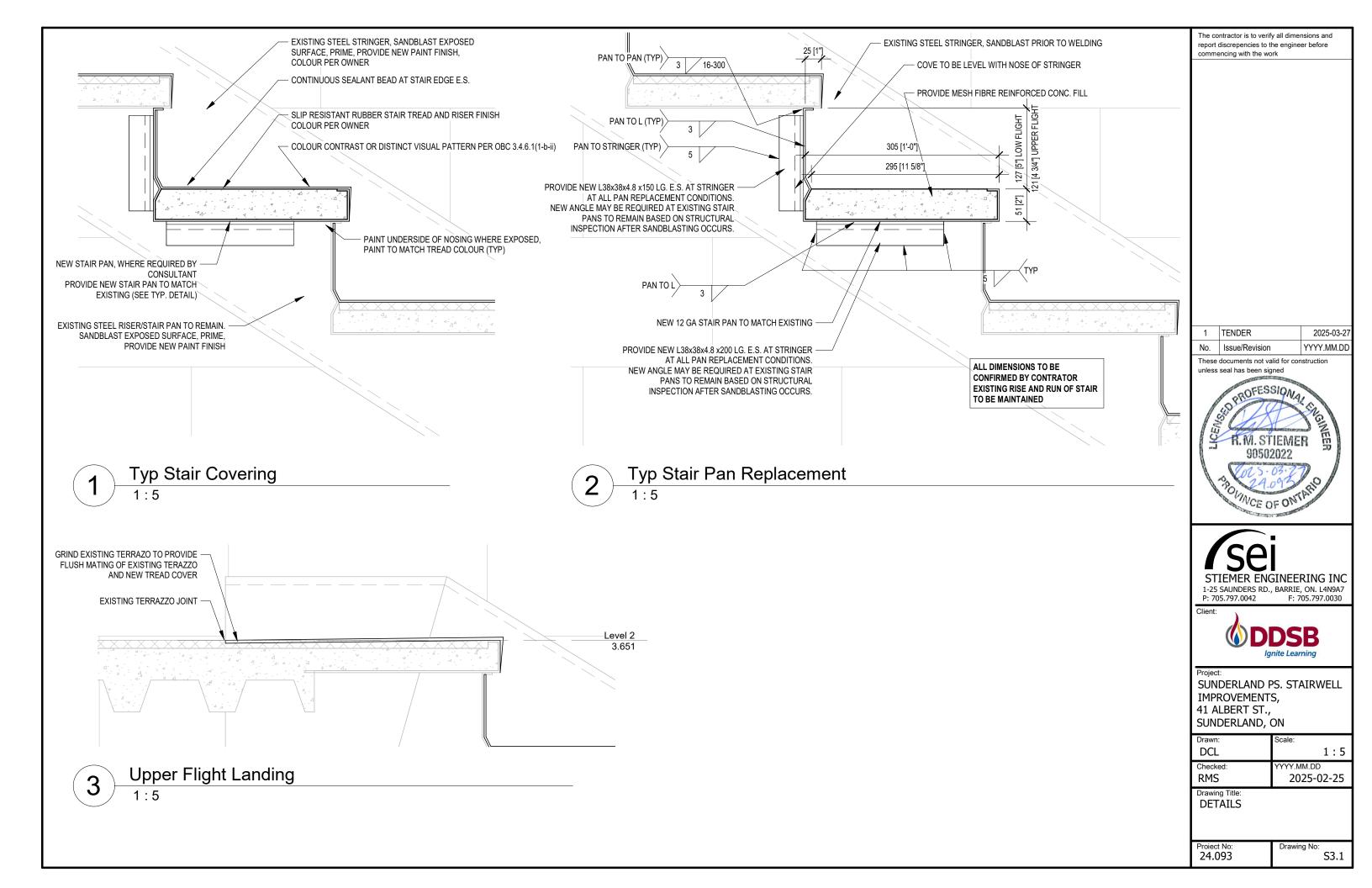
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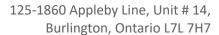
1. STAIRS/TREADS/STRINGERS (GYPSUM BOARD PREVIOUSLY ABATED)

A. 4 STAIR PANS TO BE REPLACED PER DETAILS. REMOVE AND REPLACE CMU TO ACCESS UNDERSIDE OF LOWER STAIR. REPLACEMENT INCLUDES VENT AS DETAILED.

- SANDBLAST AND COAT ALL COMPONENTS OF STAIRS + GUARDS. SEE ATTACHED DSSR REPORT 20241129 BY PARASOL ENVIRONMENTAL INC.
- C. 1 NEW GUARD PICKET
- NEW RUBBER SHEET FLOORING C/W TREAD AND RISERS (BY TARKETT OR APPR. EQ.), SEE DETAILS (SPECIFICATIONS).
- E. NEW VINYL HANDRAIL COVERING (BY EVRO ARCHITECTURAL COMPONENTS OR APPR. EQ.)
- 2. DOORS/FRAMES
  - A. PREPARE EXISTING AND COAT. SEE ATTACHED DSSR REPORT 20241129 BY PARASOL ENVIRONMENTAL INC.
- NEW THRESHOLD AT EXTERIOR DOOR TO ACCOMODATE FLOORING. TRIM DOORS IF REQ'D.
- WALLS
  - A. PREPARE AND PAINT ALL CMU/GYPSUM BOARD/HEATER COVER. (EXPOSED BRICK N.I.C.)
- 4. CEILING
  - RE-LEVEL SUSPENSION SYSTEM AS REQUIRED. A.
  - B. REPLACE ALL CEILING TILES.











Sunderland Public School

41 Albert Street South, Sunderland, Ontario

Prepared for

Durham District School Board 400 Taunton Road East, Whitby, Ontario

> November 28, 2024 Parasol Project No: 13263

## Page | i November 28, 2024 Parasol Project No: 13263

## **Executive Summary**

Parasol Environmental Inc. (Parasol) was retained by the Durham District School Board to conduct a Limited Designated Substance Survey within Sunderland Public School located at 41 Albert Street South, Sunderland, Ontario. The purpose of the survey was to record the presence, location, condition and quantities of Designated Substances and Hazardous Materials within the surveyed area that may be disturbed during the planned stairwell renovation. Additional information is provided to document corrective measures necessary to ensure that remedial action occurs applying the proper abatement procedures, if necessary.

The survey was completed by Brad Panzer of Parasol on November 19, 2024.

The following table summarizes the Designated Substances and Hazardous Materials observed within the surveyed area.

area.		
Designated Substance or Hazardous Material	Findings	Recommendation
Asbestos	Confirmed asbestos containing materials were identified as follows:  Distinctive Asbestos  Drywall Finishes	All asbestos-containing materials were observed in GOOD condition. Remove using appropriate asbestos abatement procedures as per O. Reg. 278/05.
Benzene	No major sources were identified.	No recommendations are warranted as no benzene products were observed.
Lead	Low-level lead concentrations were found to be present in the following materials:  Off-white Paint Beige Paint Masonry Block Mortar Brick Mortar	Stabilize the following materials:  • Remove loose and flaking beige paint using EACC Low-Level Lead Guideline
Mercury	Mercury vapour is presumed to be present within all fluorescent light tubes.	If removed, the fluorescent lights are to be kept sealed and intact, which will prevent direct skin contact and the inhalation of mercury vapour.
Silica	Crystalline silica is suspected to be present within:  Masonry and mortar, Concrete (poured or pre-cast)	The removal or disturbance of material suspected to contain crystalline silica are to follow procedures outlined in the MOL document "Guideline - Silica on Construction Projects", dated September 2004.
Polychlorinated Biphenyls (PCBs)	T8 light fixtures observed contain non-PCB electronic ballasts.	If disturbed, compare fluorescent light fixture's ballast to the Environment Canada Document, "PCB Identification of Lamp Ballasts Containing PCBs" dated August 1991. If the ballast does not contain a label that states "PCB Free" or the serial code that does not identify it as "PCB Free" then the ballast should be presumed to contain PCBs and disposed of accordingly.

Designated Substance or Hazardous Material	Findings	Recommendation
Mould	No major sources were identified.	No recommendations are warranted as no mould or water-damaged building materials were observed.
	The following Designated Substances are not likely to be found in the area assessed:	No recommendations are warranted as none were observed.
Other Designated Substances	<ul> <li>Acrylonitrile</li> <li>Arsenic</li> <li>Coke Oven Emission</li> <li>Ethylene Oxide</li> <li>Isocyanates</li> <li>Vinyl Chloride</li> </ul>	

Before any renovation activities, perform an intrusive investigation for concealed Designated Substances and sample building materials that were not previously tested and may be disturbed as part of the renovation. In addition, consideration should be given to mechanical, electrical and structural components that pass beyond the rooftop into the building and may be impacted by the project. Further, consideration of the known or suspected asbestoscontaining materials within the building should be assessed that may be disrupted during the renovation.

This executive summary is to be read in conjunction with the remainder of the report.

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November 28, 2024 Parasol Project No: 13263

## 1.0 Introduction

## 1.1 Background

Parasol Environmental Inc. (Parasol) was retained by the Durham District School Board to conduct a Limited Designated Substance Survey within Sunderland Public School located at 41 Albert Street South, Sunderland, Ontario. The purpose of the survey was to record the presence, location, condition and quantities of Designated Substances and Hazardous Materials within the surveyed area that may be disturbed during the planned stairwell renovation. Additional information is provided to document corrective measures necessary to ensure that remedial action occurs using the proper abatement procedures, if necessary.

The survey was completed by Brad Panzer of Parasol on November 19, 2024

## 2.0 Regulatory Framework

The following Acts, Regulations, Guidelines and documents were utilized for the survey and the preparation of this report:

- 1. Occupational Health and Safety Act R.S.O. 1990, c. O.1.
  - 1. Ontario Regulation 278/05- Designated Substances Asbestos on Construction Projects and in Buildings and Repair Operations.
  - II. Ontario Regulation 490/09- Designated Substances.
  - III. Ontario Regulation 833 Control of Exposure to Biological or Chemical Agents.
- IV. Ontario Regulation 213/91 Construction Projects
- 2. Ministry of Labour (MOL) Document, "Guideline Lead on Construction Projects", September 2004.
- 3. Environmental Abatement Council of Canada (EACC) "Lead Guideline for Construction, Renovation, Maintenance or Repair", October 2014.
- 4. Ministry of Labour (MOL) Document, "Guideline Silica on Construction Projects", September 2004.
- 5. Environment Canada Document, "PCB Identification of Lamp Ballasts Containing PCBs" August 1991.
- 6. Canadian Construction Association (CCA), "Mould Guidelines for the Canadian Construction Industry", 2018.
- 7. Environmental Abatement Council of Canada (EACC) "Mould Abatement Guidelines Edition 3", 2015.
- 8. Ontario Ministry of Labour (MOL), *Alert: Mould in Workplace Buildings*, ISSN: 1195-5228, December 2000
- 9. Environmental Abatement Council of Canada (EACC) "Pre-Construction Designated Substances and Hazardous Materials Assessments Guideline for Construction, Renovation and Demolition Projects" 2021

Ontario Regulation 490/09 – *Designated Substances* defines the eleven (11) Designated Substances, establishes the requirements for workplaces containing these materials, which include the health and safety responsibilities, control programs to minimize worker's exposures, and sets out the maximum exposure concentrations.

The control and management of asbestos in Ontario are further prescribed by Ontario Regulation 278/05-Designated Substances – Asbestos on Construction Projects and in Buildings and Repair Operations.

The major components of O. Reg 278/05 require that an asbestos survey record be completed for buildings or private residences with more than four units, and an asbestos management program be established for the asbestos-containing materials present within these buildings. The regulation also states the frequency in which a building material must be sampled, and defines an asbestos-containing material. The current definition of asbestos-containing material in Ontario is having 0.5% or greater fibrous silicate asbestos content by dry weight. Further, the Regulation divides asbestos-containing material into friable material (a

November 28, 2024

material, when dry, can be crumbled, pulverized, or powdered by hand pressure, or is crumbled, pulverized, or powdered) and non-friable material. In addition, the Regulation also defines the minimum measures and procedures for the repair or removal of asbestos-containing materials. Due to the limited scope of this survey, this report does not meet all the requirements of O. Reg. 278/05 and additional asbestos-containing materials may be present within the building that are not noted within this report. Within this report, building materials are separated into the typical applications of asbestos-containing materials.

Section 30 of the Occupational Health and Safety Act requires an Owner to determine and list Designated Substances present at a project site before beginning work. Further, this information must be included in tender documents, and the Owner and Constructor must ensure that each prospective contractor and subcontractor receive a copy of the information before entering into a binding contract. Otherwise, the Owner is liable to the constructor and every contractor and subcontractor who suffers any loss or damage as a result of the failure. The same liability applies to the Constructor regarding their contractors and subcontractors. This report meets the requirements of Section 30 of the Act.

Section 6, subsection 3 of O. Reg 213/91 requires that a Notice of Project be filed with the Ministry of Labour before beginning a project and the document requires the constructor to remark if any Designated Substance will be used, handled, or disturbed on the project. The information provided in this report can be used for the Notice of Project.

Based on the Environmental Abatement Council of Canada (EACC) "Lead Guideline for Construction, Renovation, Maintenance or Repair", dated October 2014, and for this report, paints, mortar, or surface coatings containing less than or equal to 0.1% lead by weight (1000 µg/g or 1000 mg/kg or 1000 ppm lead) are considered low-level lead paints, mortars, or surface coatings. Paints, mortars, or surface coatings containing greater than 0.1% lead by weight (1000 µg/g, or 1000 mg/kg, or 1000 ppm) but less than 0.5% lead by weight (5000 µg/g, or 5000 mg/kg, or 5000 ppm lead) are considered lead-containing paints, mortars, or surface coatings. Paints, mortars, or surface coatings containing equal to or greater than 0.5% lead by weight (5000 µg/g, or 5000 mg/kg, or 5000 ppm lead) are considered lead-based paints, mortars, or surface coatings.

## 3.0 Methodology and Scope

#### 3.1 Scope of Assessment

The survey was limited to Location #A1-Stair and #A2-Stair as illustrated on the attached drawings DSR-01 and DSR-02. The scope of the assessment was carried out in all accessible areas on a non-intrusive basis. Areas that were inaccessible at the time of the survey are listed in Section 3.11.

For this assessment, the following Designated Substances, as defined under *Ontario Regulation 490/09-Designated Substances* made under the *Occupational Health and Safety Act R.S.O. 1990, c. O.1* were assessed for as they are typically found in buildings and building material:

- 1. Asbestos
- 2. Benzene
- 3. Lead
- 4. Mercury
- 5. Silica

In addition to the above-noted Designated Substances, Parasol personnel also documented the presence of the following hazardous materials, which have similar Regulations that outline the management, handling and disposal of the material.

- 1. Polychlorinated Biphenyls
- 2. Mould

For this assessment, the following Designated Substances, as defined under Ontario Regulation 490/09-Designated Substances made under the Occupational Health and Safety Act R.S.O. 1990, c. O.1, were not assessed as they would not be found in building materials that may be disturbed as part of this project and typically only found in industrial or manufacturing settings.

- 1. Acrylonitrile
- 2. Arsenic
- 3. Coke Oven Emission
- 4. Ethylene Oxide
- 5. Isocyanates
- 6. Vinyl Chloride

No additional comments will be made regarding these materials within this report unless the Owner or the Owner Representative notifies Parasol of the use of these materials within the building.

## 3.2 Methodology

The assessment was completed largely on a visual basis at ground level and representative checks were made above ceilings with the aid of a six-foot (6FT) step ladder. Locations and building materials present above this height were considered to be inaccessible. In addition, due to the non-intrusive nature of the assessment, materials concealed above solid ceiling finishes, within wall cavities, and below floor grade may be present that are not documented within this report. Designated Substances should be presumed to be present within these locations and all necessary precautions should be followed when accessing these spaces.

#### 3.3 Asbestos

Representative bulk samples of building materials were collected in the frequency required under Table 1, Subsection 3(3) of Ontario Regulation 278/05- Designated Substances – Asbestos on Construction Projects and in Buildings and Repair Operations. Samples were submitted to EMC Scientific Inc., an independent, NVLAP accredited laboratory for analysis. The bulk samples were analyzed using Polarized Light Microscopy (PLM) and dispersion staining techniques in accordance with the EPA 600/R-93/116 Method for the Determination of Asbestos in Bulk Building Materials. If a material was determined to be asbestoscontaining, the laboratory was instructed to cease analysis of the remaining samples in the Sample Set.

The locations and conditions of the asbestos-containing materials identified within the building are detailed in this report. The condition criteria were evaluated using The Public Works and Government Services Canada (PWGSC) document *Public Services and Procurement Canada Asbestos Management Standard* updated June 1, 2019, which were then used to form recommendations for the asbestos-containing material present within the surveyed area.

The condition of the asbestos-containing material was assessed as follows:

Condition	Non-Friable	Friable
GOOD	<ul> <li>Material intact and stable</li> <li>Minor cracks may be present on the surface</li> </ul>	<ul> <li>Material is intact, with no signs of damage or delamination.</li> <li>Up to 1% of sprayed fireproofing has visible damage.</li> <li>Mechanical insulation is completely covered in jacketing, with no penetrations or exposed insulation.</li> </ul>
FAIR	Criteria not used	<ul> <li>Jacket insulation is missing</li> <li>Minor damage (cuts, tears, or nicks) to jacketed insulation.</li> <li>Insulation is exposed but not showing surface disintegration.</li> <li>Missing insulation ranges from minor to none.</li> </ul>
POOR	Material is broken, lifted, damaged, or deteriorated	<ul> <li>Damage cannot be easily repaired</li> <li>More than 1% of sprayed fireproofing is damaged, delaminated, or deteriorated.</li> </ul>

Condition	Non-Friable	Friable
		<ul> <li>The original insulation jacket is missing, damaged, deteriorated, or delaminated.</li> <li>Insulation is exposed and significant areas have been dislodged.</li> </ul>

## 3.4 Excluded Asbestos-Containing Building Materials

Due to the non-intrusive basis of the survey, the following building materials, if present, were excluded from the survey but should be considered asbestos-containing until proven otherwise: roofing materials, refractory brick in boilers and incinerators, fire door core insulation, elevator brakes, mastics, high voltage wiring, heat shields within light fixtures, mechanical packing and gaskets, insulation or vermiculite inside wall cavities or concealed spaces, insulations within mechanical units or ducts, wall finishes concealed behind visible wall finishes, window and door glazing/caulking compounds, flooring material concealed beneath visible flooring and/or concealed beneath existing sub-floors, ceramic tile grout and mortar/adhesive concealed behind ceramic tiles, and sub-grade materials.

#### 3.5 Benzene

No samples of building materials suspected of containing benzene were collected. If above or below grade fuel tanks were present within the assessed area, they were noted within the appropriate findings section.

#### 3.6 Lead

Representative bulk samples of the most prevalent painted finishes and/or masonry mortar suspected of containing lead that is to be disturbed as part of the project were collected at the time of the assessment. A small area of the mortar or paint and subsurface layers were collected by scraping the material down to the substrate to which they are applied. Paint finishes of limited applications were not collected. Samples were submitted to EMSL Canada Inc. (EMSL), an ELLAP accredited laboratory. The paint or mortar samples were analyzed using Flame Atomic Absorption Spectrometry in accordance with EPA Method SW 846 3050B/7000B Flame Atomic Absorption Spectrophotometry. Results of the analysis were reported by the laboratory as the percentage of lead by weight of the total sample (% by wt.) or the mass of lead by the mass of the total sample (mg/kg).

The condition of painted surfaces and/or masonry mortar is also detailed in this report. A visual assessment of the mortar or paint for signs of cracking, chipping, flaking, bubbling and deterioration due to friction were noted and were assessed as GOOD, FAIR or POOR based on the degree and extent of deterioration.

The remainder of the suspect lead-containing material (lead piping, copper pipes soldering joints, wiring connectors, electric cable sheathing, batteries, and lead sheeting) were noted if present.

## 3.7 Mercury

A visual inspection was completed based on the age, appearance, and historical uses of suspect mercury-containing equipment, building materials, or products to identify their locations and quantities. Suspect mercury-containing equipment was not dismantled nor were samples collected for the determination of mercury content.

#### 3.8 Silica

A visual inspection of building materials suspected of containing crystalline silica (e.g., concrete, cement, tile, brick, masonry, mortar) was completed based on the historical use of suspect silica-containing materials in certain materials. Samples of building material were not collected for the determination of the presence or absence of crystalline silica.

## 3.9 Mould Contamination

A visual inspection to note the extent of surface mould growth and water-damaged building materials was completed within the assessed areas. No sampling for mould spore concentration, or destructive testing

to identify concealed mould growth or water damage, was completed. Surface discolouration, material degradation, or suspect mould growth were noted.

#### 3.10 Polychlorinated Biphenyls

A visual inspection for polychlorinated biphenyls (PCBs) was completed on a select number of accessible fluorescent light ballasts present within the assessed areas. If available, information was collected from the ballasts' label and compared to the information in the Environment Canada Document, "PCB Identification of Lamp Ballasts Containing PCBs", dated August 1991. It is important to note that due to safety precautions, the light fixtures were not opened to obtain the manufacturer's details as the fixtures were not de-energized. If visual confirmation of PCB content within the ballast could not be made, it was assumed that light fixtures in areas constructed before 1980 and did not have T8 style fluorescent light fixtures are PCB-containing until proven otherwise.

Information from electrical equipment, transformers specifically, was limited to the exterior labels, or nameplates, a review of maintenance records, and the age of the building to determine PCB content. No dielectric fluids were collected at the time of the assessment.

Caulking and sealants were not sampled or analyzed for PCB content. It should be assumed that if the material was installed before 1980, it contains PCBs until proven otherwise.

Dry-type transformers and fluorescent light ballasts with T8 style lights are presumed to be free of PCBs.

## 3.11 Inaccessible Locations

At the time of the survey the following locations were inaccessible:

#### 1. N/A

## 4.0 Existing Reports and Drawings

The following reports were provided to Parasol and the information presented within these reports was utilized in the preparation of this report.

#### 1. N/A

Detailed drawings were provided by the client and can be found in Appendix B.

## 5.0 Findings

The results of the visual identification and the bulk sampling completed during the duration of the survey are summarized below. The materials are divided into typical building material applications. The Laboratory Certificate of Analysis for the bulk samples collected while on site are presented in Appendix A.

## 5.1 Building Information

A summary of pertinent building details specific to the surveyed area is provided in the table below. Information is based on onsite observations, and interviews conducted as well as the provided prior reports.

Building Element	Details
Date of Construction & Additions	Original Building-1957, Additions-1959, 1966, 1972, 1990, 2000
Number of Floors	2
Total Area	38,014 SF
Roof Type	Built-up
Floors	Terrazzo
Walls	Masonry Block, Brick, Drywall
Ceilings	Lay-in Ceiling Tiles, Drywall
HVAC	Radiators

Building Element	Details
Structure	Concrete, Steel
Exterior Cladding	Brick, Metal

The following section summarizes the findings of the assessment and provides a general description of the hazardous materials identified and their locations.

## 5.2 Asbestos

## 5.2.1 Building Materials Not Observed

At the time of the survey, the following building materials, which are known to historically contain asbestos were not observed and therefore are not discussed further within the report.

- 1. Sprayed Fireproofing
- 2. Texture Coat Finishes
- Plaster Finishes
- 4. Vermiculite
- 5. Vinyl Floor Tiles
- 6. Vinyl Sheet Flooring
- 7. Transite Cement Products
- 8. Caulking

## 5.2.2 Acoustic Ceiling Tiles

The following acoustic ceiling tiles were observed to be present at the time of the survey:

Tile Number	Sample Number	Description	Locations	Asbestos Content	Notes
AT-01	S01A-C	2'x4' Pinholes and Deep Random Fissures	Throughout Surveyed Area	ND	-
AT-02	NA	2'x4' Pinholes and Short Random Flecks	Throughout Surveyed Area	NA	Date Stamped (08/04/2006) Non-ACM

ND= None Detected, NA= Not Applicable, CH= Chrysotile Asbestos, AM= Amosite Asbestos

#### 5.2.3 Drywall Finishes

Drywall with joint compound applied to gypsum board was observed throughout the surveyed area as wall, ceiling and bulkhead finishes. Analysis of Sample Set S04A-C determined that sample S04A contains 2% Chrysotile asbestos. The remaining samples within the sample set were not analyzed due to the stop positive confirmation. Ontario Regulation 278/05, requires a material to be considered as asbestoscontaining if one or more of the samples within the set is determined to contain asbestos. Therefore, drywall finishes with joint compound applied are considered to be asbestos-containing until additional sampling proves otherwise. Drywall finishes were observed in GOOD condition at the time of the assessment.

## 5.2.4 Insulations

Insulations were not observed to be applied to mechanical systems within the surveyed area.

## 5.2.4.1 Mechanical Equipment Insulation

Mechanical equipment (radiators) within the surveyed area was observed to not be externally insulated.

#### 5.2.5 Vermiculite

No loose-fill vermiculite was observed to be present within the surveyed area at the time of the assessment. However, as the survey was non-destructive, loose-fill vermiculite may be present within the voids of the

masonry blocks, which is a historical application of vermiculite. Precaution should be taken if the masonry block is to be disturbed.

#### 5.2.6 Other

- Mortar associated with masonry block finishes was observed throughout the surveyed area.
   Analysis of Sample Set S02A-C determined that the samples do not contain asbestos. In addition, a layer of white primer was identified within the sample set and analyzed as a separate sample layer. Analysis of the white primer determined that the material does not contain asbestos.
- Mortar associated with brick finishes was observed within the surveyed area. Analysis of Sample Set S03A-C determined that samples do not contain asbestos.
- Baseboard ceramic tile grout and mortar was observed within the surveyed area. Analysis of Sample Set S05A-C determined that samples do not contain asbestos.

#### 5.3 Benzene

No products suspected of containing benzene were identified within the surveyed area.

#### 5.4 Lead

Results of the lead in paint chips and/or masonry mortar are presented in the table below. The Certificate of Analysis is attached in Appendix A.

Sample No	Sample Location	Description	Substrate	Result	Lead Class	Condition
Pb-01	A1-Stair	Mortar	Masonry Block	<40mg/Kg	Low-Level Lead	GOOD
Pb-02	A1-Stair	Mortar	Brick	<40mg/Kg	Low-Level Lead	GOOD
Pb-03	A2-Stair	Off-White Paint	Walls	0.042%	Low-Level Lead	GOOD
Pb-04	A2-Stair	Beige Paint	Doors, Stairs, Railings	0.042%	Low-Level Lead	Flaking, FAIR

As noted in the EACC guidelines, results above 0.1% are considered elevated and specific procedures apply to the removal or disturbance of these materials.

## 5.5 Mercury

## 5.5.1 Lamps

Mercury vapour is presumed to be present within all fluorescent light tubes.

#### 5.5.2 Devices and Equipment

Thermostatic switches were not observed within the surveyed area.

It is important to note that equipment present within the assessed area was not dismantled to verify the presence or absence of mercury within. As such, concealed mercury-containing devices may be present that are not noted within this report. Caution should be taken when dismantling this equipment as mercury-containing components should be assumed to be present.

#### 5.6 Silica

The following building materials were observed to be present within the assessed area and are presumed to contain crystalline silica:

- 1. Masonry and mortar
- 2. Concrete (poured or pre-cast)

#### 5.7 PCBs

## 5.7.1 Light Fixtures

Light fixtures observed within the surveyed area were observed to contain T8 lights, which contain electronic ballast and do not contain PCBs.

#### 5.7.2 Transformers

Transformers were not observed to be present within the surveyed area.

#### 5.8 Mould

No obvious visible mould growth and water damage were observed to be present within the surveyed area.

#### 6.0 Conclusions and Recommendations

Based on the results of the bulk sampling and visual identification, the following Designated Substances and Hazardous Materials are known and/or assumed to be present within the surveyed area:

- 1. Asbestos
- 2. Lead
- 3. Mercury
- 4. Silica
- 5. PCBs

Parasol proposes the following recommendations:

## 6.1 General Recommendations

#### 6.1.1 Asbestos

Based on the results of the bulk sampling and visual identification, the following asbestos-containing building materials were identified:

## 1. Drywall Finishes

Due to the presence of asbestos-containing materials within the building, the Asbestos Management Program must be updated and maintained for the building.

Perform a reassessment survey of asbestos-containing materials on an annual basis (minimum requirement).

Before any renovation activities, perform an intrusive investigation for concealed asbestos-containing materials and sample building materials that were not previously tested and may be disturbed as part of the renovation.

Before completing any renovation or alteration, all asbestos-containing material that may be disturbed as part of the project should be removed following Ontario Regulation 278/05.

#### 6.1.2 Asbestos Abatement Procedures

Removal of less than one square meter  $(1m^2)$  of drywall is to be completed using Type 1 asbestos abatement procedures. If greater than one square meter  $(1m^2)$  of drywall is to be disturbed then Type 2 asbestos abatement procedures apply.

#### 6.1.3 Lead

Based on the results of the bulk sampling and the visual identification, low-level lead concentrations (less than or equal to 0.1% lead by weight ( $1000~\mu g/g$  or 1000~m g/kg or 1000~p pm lead)) were found to be present in the following building materials: off-white paint, beige paint, masonry block mortar and brick mortar.

Low-level lead guidelines only apply if they meet the following criteria:

1. The paint and substrate are not disturbed in an aggressive manner (grinding, cutting or blasting) or not heated where fumes are produced (welding or torching),

- 2. Dust control and suppression procedures are utilized so that the TWA (10 mg/m³) for particulates not otherwise specified (PNOS) is not exceeded and airborne lead concentrations are kept below 0.05 mg/m³, and,
- 3. Washing facilities are available for workers to wash hands and faces.

Removal or disturbance of paints and brick mortar is to follow the procedures outlined in the EACC document "Lead Guideline for Construction, Renovation, Maintenance or Repair", October 2014.

## 6.1.4 Mercury

Mercury vapour is present within fluorescent lights.

When removing the fluorescent lights, the materials are to be handled carefully to ensure they are kept sealed and intact, which will prevent direct skin contact and the inhalation of mercury vapour. Mercury is to be disposed of per Ontario Regulation 347 if greater than five kilograms (5 kg) is produced within a month.

#### 6.1.5 Silica

Crystalline silica is suspected to be present within the masonry and mortar, and concrete (poured or precast) within the assessed area.

The removal or disturbance of material suspected to contain crystalline silica should follow procedures outlined in the MOL document "Guideline - Silica on Construction Projects", dated September 2004.

#### 6.1.6 PCBs

The light fixtures observed at the time of the assessment contain T8 lights, which are known to contain non-PCB electronic ballasts.

If the fluorescent light fixtures are to be disturbed as part of the project, they should be disassembled and the information on the ballast compared to the Environment Canada Document, "PCB Identification of Lamp Ballasts Containing PCBs" dated August 1991. If the ballast does not contain a label that states "PCB Free" or the serial code that does not identify it as "PCB Free" then the ballast should be presumed to contain PCBs and disposed of accordingly.

#### 6.1.7 Mould

No visible mould growth or water-damaged building materials were observed within the assessed area. If mould growth is discovered as part of the renovation project, then the material should be removed following the Environmental Abatement Council of Canada (EACC) "Mould Abatement Guidelines - Edition 3", dated 2015. Further, a qualified Health and Safety professional should be consulted to inspect and verify the proper removal of the building materials.

#### 6.2 Remedial Recommendations

The following remedial work should be completed regardless of the planned renovation.

#### 6.2.1 Lead

The following paint and/or masonry mortar should be stabilized if they are to remain:

Location	Description	Remedial Recommendations
A1-Stair	Beige paint on stairs and railing	Remove loose and flaking paint using EACC Low-Level Lead Guideline
A2-Stair	Beige paint on stairs and railing	Remove loose and flaking paint using EACC Low-Level Lead Guideline

November 28, 2024 Parasol Project No: 13263

#### 7.0 Statement of Limitations

The information and recommendations detailed in this report were carried out by trained professional and technical staff following generally accepted engineering and scientific work practices and procedures. Recommendations provided in this report have been generated in accordance with accepted industry guidelines and practices. These guidelines and practices are considered acceptable as of the date of this report.

During the preparation of this report, Parasol relied on information provided by the client, which includes reports and test results prepared by other consultants, the history and use of the site supplied by on-site personnel, and testing services provided by independent laboratories. Parasol has not made any independent verification of the provided information.

The collection of samples at the location noted was consistent with the scope of work agreed upon with the person or entity to whom this report is addressed and the information obtained concerning prior site investigations. As conditions between samples may vary, the potential remains for the presence of unknown additional contaminants for which there were no known indicators.

Information provided in this report by Parasol is intended for the client's use only. Parasol will not provide results or information to any party unless disclosure by Parasol is required by law. Any use by a third party of reports or documents authored by Parasol or any reliance by a third party on or decisions made by a third party based on the findings described in said documents is the sole responsibility of such third parties. Parasol accepts no responsibility for damages suffered by any third party as a result of decisions made or actions conducted. No other warranties are implied or expressed.

Please contact the undersigned regarding the information presented within this report.

Sincerely,

Brad Panzer, Senior Project Manager

Appendix A Laboratory Certificate of Analysis



# **Laboratory Analysis Report**

To:

**Brad Panzer** 

Parasol Environmental 125–1860 Appleby Line, Unit #14

Burlington, Ontario

L7L 7H7

**EMC LAB REPORT NUMBER:** A112047

Job/Project Name: Sunderland P.S.

**Analysis Method:** Polarized Light Microscopy – EPA 600

**Date Analyzed:** Nov 27/24

Date Received: Nov 20/24

Analyst: John Paul Cantillon
Reviewed By: Jayoda Perera

Job No: 13263 Number of Samples: 15

Date Reported: Nov 27/24

	Lab		-1	SAMPLE COMPONEN		TS (%)	
Client's Sample ID	Sample No.	Description/Location	Sample Appearance	Asbestos Fibres	Non- asbestos Fibres	Non- fibrous Material	
S-01A	A112047-1	AT-01/A1 – stair	Grey, ceiling tile	ND	75	25	
S-01B	A112047-2	AT-01/A2 – stair	Grey, ceiling tile	ND	75	25	
S-01C	A112047-3	AT-01/A2 – stair	Grey, ceiling tile	ND	75	25	
S-02A	A112047-4	Masonry block mortar/A1 – stair	2 Phases: <ul><li>a) White, primer</li><li>b) Grey, cementitious material</li></ul>	ND ND		100 100	
S-02B	A112047-5	Masonry block mortar/A1 – stair	2 Phases: <ul><li>a) White, primer</li><li>b) Grey, cementitious material</li></ul>	ND ND		100 100	
S-02C	A112047-6	Masonry block mortar/A2 – stair	2 Phases: <ul><li>a) White, primer</li><li>b) Grey, cementitious material</li></ul>	ND ND		100 100	
S-03A	A112047-7	Brick mortar/A1 – stair	Grey, cementitious material	ND		100	
S-03B	A112047-8	Brick mortar/A1 – stair	Grey, cementitious material	ND		100	
S-03C	A112047-9	Brick mortar/A1 – stair	Grey, cementitious material	ND		100	
S-04A	A112047-10	DJC/A1 – stair	Beige, joint compound	Chrysotile 2		98	
S-04B	A112047-11	DJC/A1 – stair	NA	NA			
S-04C	A112047-12	DJC/A1 – stair	NA	NA			
S-05A	A112047-13	Ceramic mortar/A2 – stair	Grey, cementitious material	ND		100	



# **Laboratory Analysis Report**

**EMC LAB REPORT NUMBER:** A112047

Client's Job/Project Name/No.: Sunderland P.S.

Analyst: John Paul Cantillon

	Lab		SAMPLE COMP	ONENTS (%	)	
Client's Sample ID	Sample No.	Description/Location	Sample Appearance	Asbestos Fibres	Non- asbestos Fibres	Non- fibrous Material
S-05B	A112047-14	Ceramic mortar/A2 – stair	Grey, cementitious material	ND		100
S-05C	A112047-15	Ceramic mortar/A2 – stair	Grey, cementitious material	ND		100

#### Note:

- 1. Bulk samples are analyzed using Polarized Light Microscopy (PLM) and dispersion staining techniques. The analytical procedures are in accordance with EPA 600/R-93/116 method.
- 2. The results are only related to the samples analyzed. ND = None Detected (no asbestos fibres were observed), NA = Not Analyzed (analysis stopped due to a previous positive result).

<sup>3.</sup> This report may not be reproduced, except in full without the written approval of EMC Scientific Inc. This report may not be used by the client to claim product endorsement by NVLAP or any other agency of the U.S. Government.

<sup>4.</sup> The Ontario Regulatory Threshold for asbestos is 0.5%. The limit of quantification (LOQ) is 0.5%.



Unit 14

## **EMSL Canada Inc.**

2756 Slough Street, Mississauga, ON L4T 1G3

Phone/Fax: (289) 997-4602 / (289) 997-4607

http://www.EMSL.com torontolab@emsl.com

ProjectID:

(416) 579-1284

EMSL Canada Or

CustomerID:

CustomerPO:

552418962

55PAEN75

13263

Phone: Fax:

Received: 11/20/2024 09:00 AM

Collected: 11/19/2024

**Burlington, ON L7L 7H7** 

125-1860 Appleby Line

Parasol Environmental Inc.

Project: Sunderland P.S./ 13263

**Brad Panzer** 

## Test Report: Lead in Paint Chips by Flame AAS (SW 846 3050B/7000B)\*

Client SampleDescription	Collected Analyzed	Weight	RDL	Lead Concentration
Pb-03 552418962-0003	11/19/2024 11/20/2024 Site: A2-Stair/ Off-White Paint	0.2551 g	0.0080 % wt	0.042 % wt
Pb-04 552418962-0004	11/19/2024 11/20/2024 Site: A2-Stair/Beige Paint	0.2498 g	0.0080 % wt	0.0092 % wt

Rowena Fanto, Lead Supervisor or other approved signatory

EMSL maintains liability limited to cost of analysis. Interpretation and use of test results are the responsibility of the client. This report relates only to the samples reported above, and may not be reproduced, except in full, without written approval by EMSL. EMSL bears no responsibility for sample collection activities or analytical method limitations. The report reflects the samples as received. Results are generated from the field sampling data (sampling volumes and areas, locations, etc.) provided by the client on the Chain of Custody. Samples are within quality control criteria and met method specifications unless otherwise noted.

\* Analysis following Lead in Paint by EMSL SOP/Determination of Environmental Lead by FLAA. Reporting limit is 0.008% wt based on the minimum sample weight per our SOP. "<" (less than) result signifies the analyte was not detected at or above the reporting limit. Measurement of uncertainty is available upon request. Definitions of modifications are available upon request. Samples analyzed by EMSL Canada Inc. Mississauga, ON AIHA LAP, LLC-ELLAP Accredited #196142



Attn:

## **EMSL Canada Inc.**

2756 Slough Street, Mississauga, ON L4T 1G3

Phone/Fax: (289) 997-4602 / (289) 997-4607

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Collected: 11/19/2024

Unit 14 Burlington, ON L7L 7H7

125-1860 Appleby Line

Parasol Environmental Inc.

Project: Sunderland P.S./ 13263

**Brad Panzer** 

## Test Report: Lead by Flame AAS (SW 846 3050B/7000B)\*

Client SampleDescription	Collected Analyzed	Weight (g)	RDL	Lead Concentration
Pb-01 552418962-0001	11/19/2024 11/21/2024 Site: A1-Stair/ Masonry Block Mortar	0.5021 g	40 mg/Kg	<40 mg/Kg
Pb-02 552418962-0002	11/19/2024 11/21/2024 Site: A1-Stair/ Brick Mortar	0.5036 g	40 mg/Kg	<40 mg/Kg

Rowena Fanto, Lead Supervisor or other approved signatory

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\*\*Analysis following Lead in Soil/Solids by EMSL SOP/Determination of Environmental Lead by FLAA. Reporting limit is 40 mg/kg based on the minimum sample weight per our SOP. Unless noted, results in this report are not blank corrected. "<" (less than) result signifies that the analyte was not detected at or above the reporting limit. Measurement of uncertainty is available upon request. Definitions of modifications are available upon request.

Samples analyzed by EMSL Canada Inc. Mississauga, ON

Appendix B Site Drawing

